New York State Department of Transportation
Yellow Flag NB23U4W021

By: Malav Shah
Flag Date: May 24, 2023

Superseding Information:
No Flags Superseded

Structure Information

BIN: **1065318**
Feature Carried: 278I278IX2M23027
Feature Crossed: 6TH AVENUE
Orientation: 8 - NORTHWEST

Region: 11 - NEW YORK CITY
County: KINGS
Political Unit: City of NEW YORK
Approximate Year Built: 1962

Posted Load Matches Inventory : Yes
Bridge Load Posting (Tons) : Not Posted for Load

Primary Owner: New York State Department of Transportation
Primary Maintenance Responsibility: 12 - State - Subcontracted to another Party
Typical or Main Span Type: 3 - Steel, 02 - Stringer/Multi-Beam or Girder
This Bridge is not a Ramp
Number of Spans: 322

Verbal Notification Information

Person Notified: Muhammad Mubeen
Date: May 26, 2023 3:00:00 PM

Of: NYSDOT Region 11

Signature Information

Signature: Malav Shah, P.E. 106620-1
Date: June 21, 2023

Reviewed By: Robert Kemp
Date: June 21, 2023

Attachments: 8

Flagged Elements

Parent Element	Element	Total Quantity	Unit
	Span Number : 206		
	107 - Steel Open Girder/Beam	989	ft
	PR831 - Steel Beam End	42	each

Flagged Condition Description

This Yellow Flag No. NB23U4W021 is a new flag.

Location: Span 206, Girder G19 at Pier 205

Description:

Girder G19 web exhibits 41% overall section loss between upper cope and lower cope on the right face, along the connection angle. There of also a 1/2" diameter hole with 90% section loss in surrounding area of 2" x 2" right below upper cope. This 41% section loss is spreaded over an area of 16"H x 8-1/2"W along the connection angle. Adjacent to this, there is 3/16" to 1/4" section loss in lower web for 8-1/2"H x 18"L along bottom flange. Upper web on right face exhibits 1/16" pitting for up to 15"H x 22"L. Top flange on right side exhibits 1/8" to 3/16" section loss for 4"L x 4"W at the girder end.

Girder G19 lower web on left face exhibits up to 3/16" section loss for up to 2"H x 6"L along the bottom flange near bottom cope. Above this area, there is up to 1/8" section loss in area of Up to 3"H x 26"L. Stiffener angle on left side has an area of 3-1/2"W x 9"H with up to 70% section loss in lower portion of connecting leg. Remaining face of the connecting leg exhibits up to 45% section loss with up to 25% section loss in all 4 bolt nuts.

Bottom flange exhibits 1/8" to 3/16" section loss for Full width of flange x up to 48" L.

Notes:

1.The affected member, Girder G19 is a load path redundant steel girder consisting of a web depth of 19” inches and thickness of 0.62 inches and is located under the deck in the roadway, approximately 12” off the edge of curb line / safety walk. All dimensions were measured in the field.

2. The adjacent Girder G18 has repair plates at girder end with no significant section losses.

3. The adjacent Stringer S2, approximately 24” on center, acts as a support for the railing and curb area above.

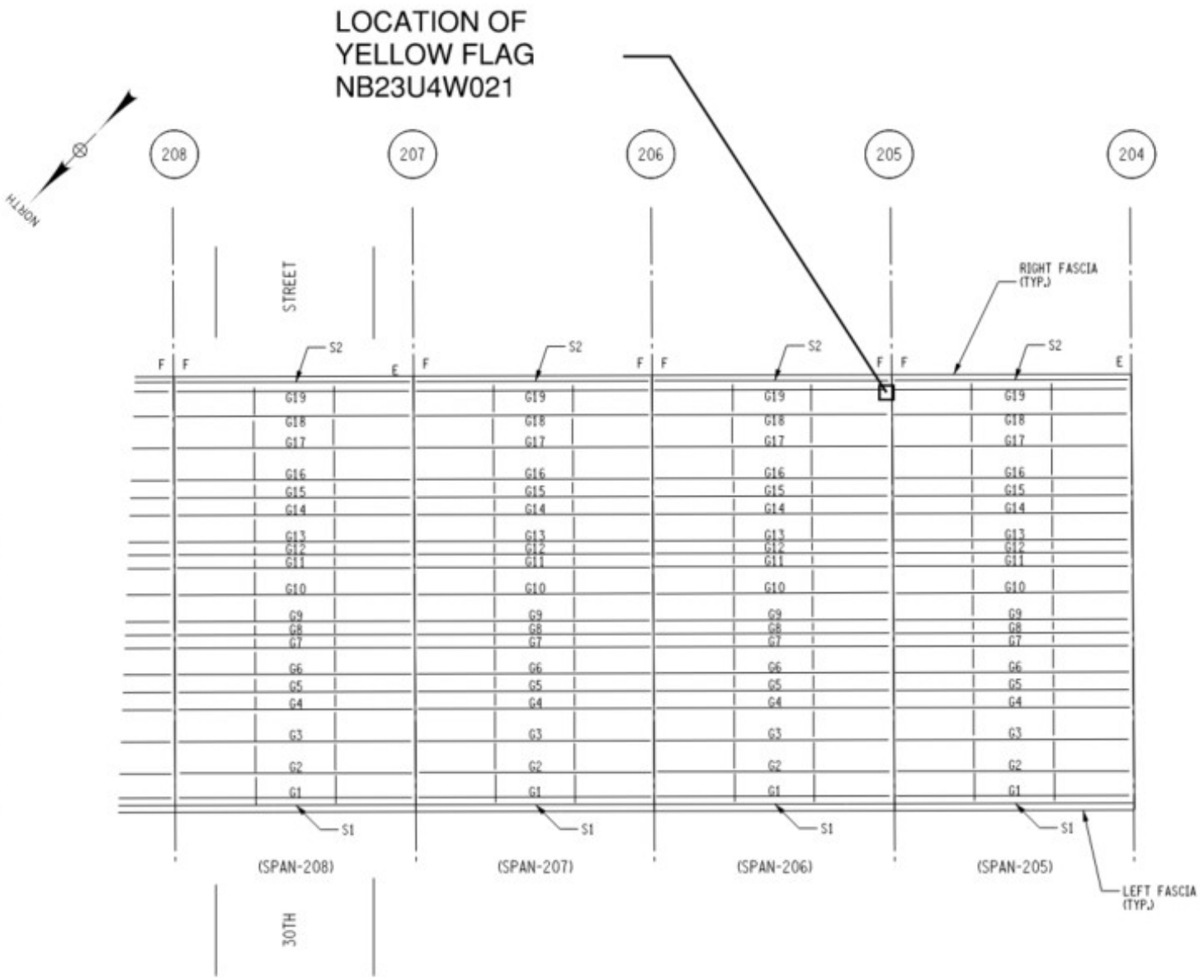
4. A double lane closure on 3rd Avenue Westbound with a 35' bucket truck is required to access the flagged location.

5. The previous 2022 SILO CS-3 inspection at this location has following description of defect:

The end of Girder G19 in Span 206 at Pier 205 exhibits heavy corrosion with section loss in the web along the connection angles for 1/8” deep for full web height for 2” wide at the left face with 3/16” deep area for 6” H x 2” W at upper web of the girder face and 1/8”-3/16” deep for full web height for 5” wide at the right face. The upper web exhibits 1/2” diameter corrosion hole at the top cope. Also, the lower web above the bottom flange exhibits section loss for 1/16” deep for 12” L x 2” H at the left face and 1/8” deep for 24” L x 3” H at the right face. The connection angles at both faces of the girder exhibit moderate to heavy corrosion. The weld is missing at both ends of the bottom flange cover plate as well.

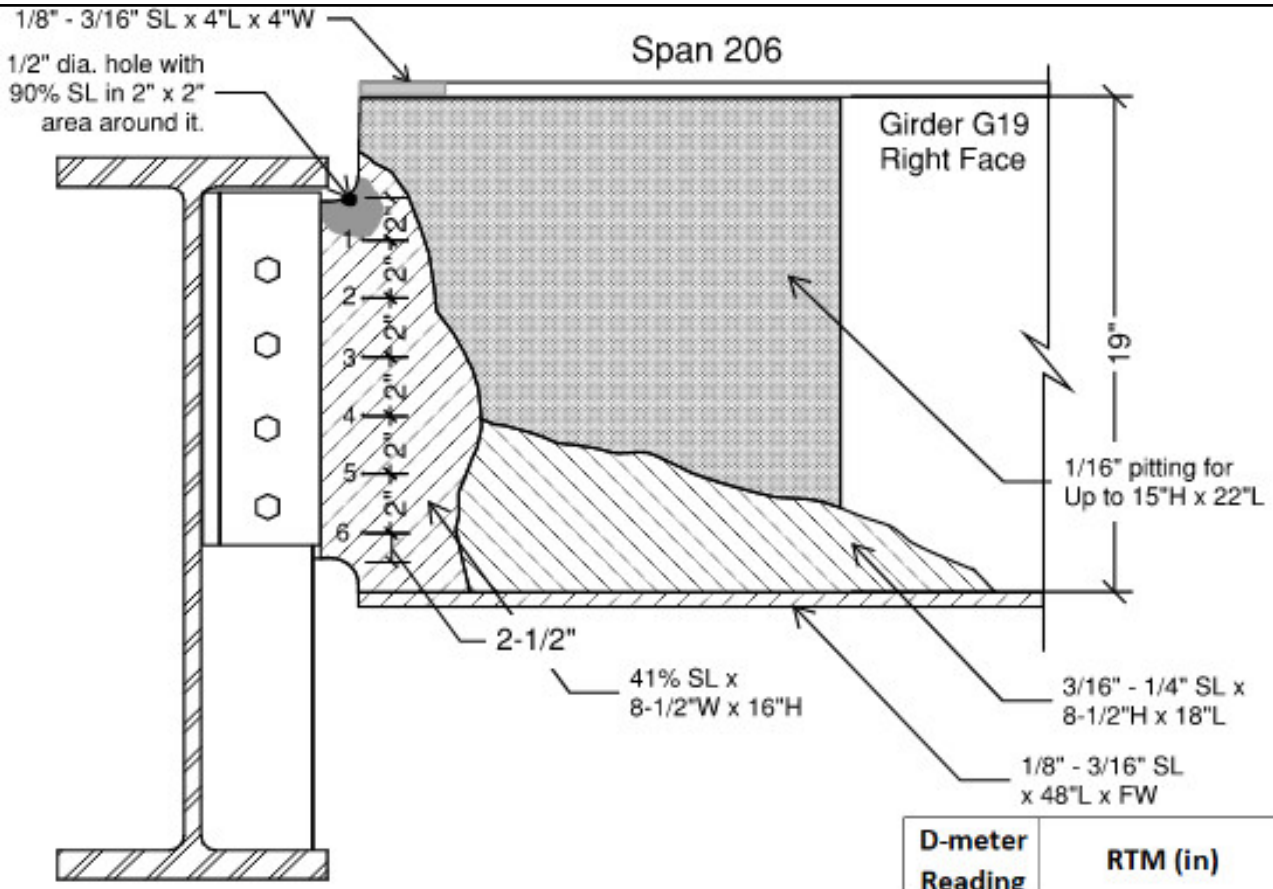
Flag Photographs

Photo Number: **1** Photo Filename: **NB23U4W021 LOCATION PLAN.JPG**



Attachment Description: **Flag Location Plan**

Photo Number: **2** Photo Filename: **NB23U4W021 CONDITION SKETCH 1.JPG**



D-meter Reading	RTM (in)
1	0.47
2	0.45
3	0.47
4	0.5
5	0.347
6	0.3

Section Loss Calculations:

Original Girder Web Thickness = 0.62" (as measured in the field)

As Built shearing web area = 14.5" H x 0.62" T = 8.99 sq. in.

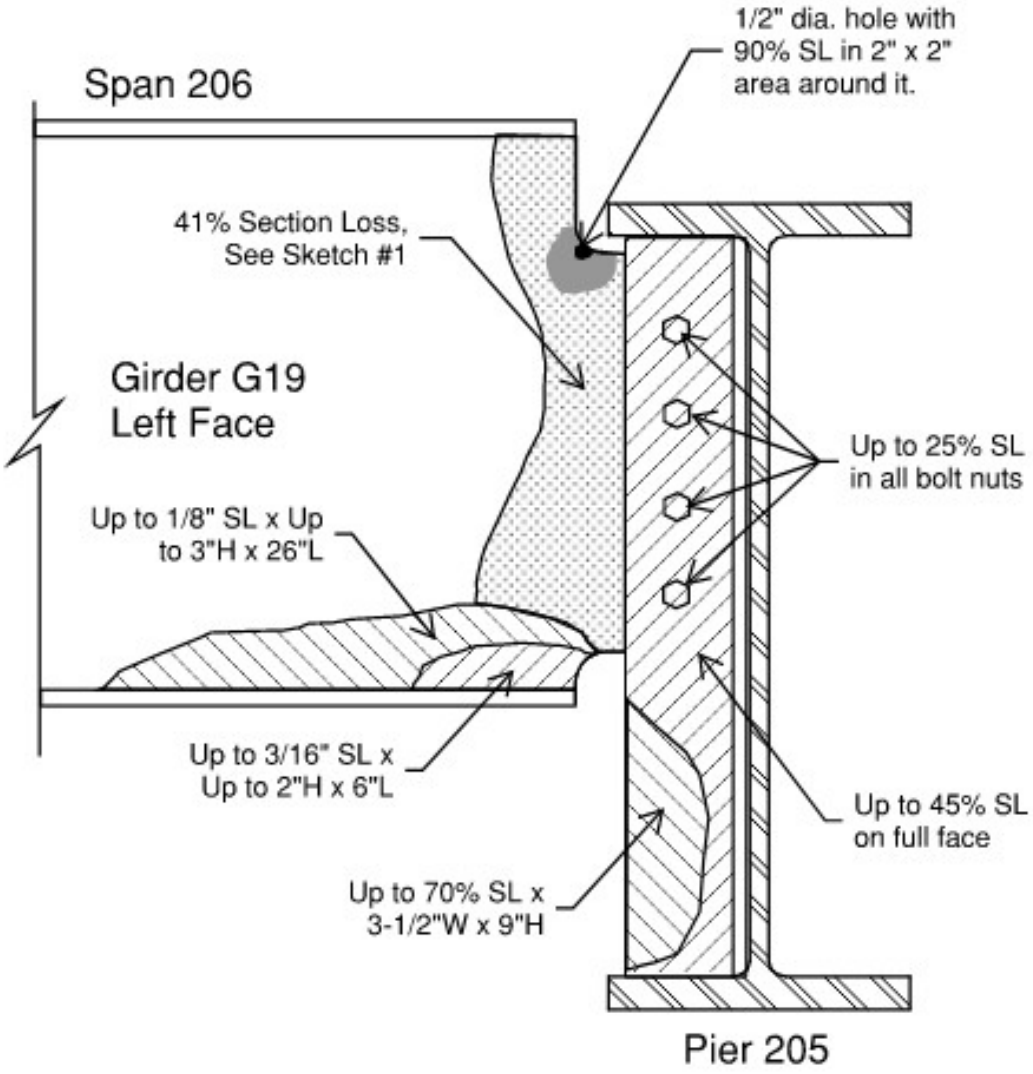
Average remaining web section =[(0.1 x 0.62) X 2"] + [0.47 x 2"] + [0.45 x 2"] + [0.47 x 2"] + [0.5 x 2"] + [0.347 x 2"] + [0.3 x 2.5"]
= 5.348 sq. in.

Web section loss – ((8.99 – 4.448)/8.99) x 100% = 40.51% SAY = 41%

SKETCH FOR YELLOW FLAG # NB23U4W021
SPAN 206, GIRDER G19 AT PIER 205
(LOOKING LEFT)
N.T.S

Attachment Description: **Flag Condition Sketch 1**

Photo Number: **3** Photo Filename: **NB23U4W021 CONDITION SKETCH 2.JPG**



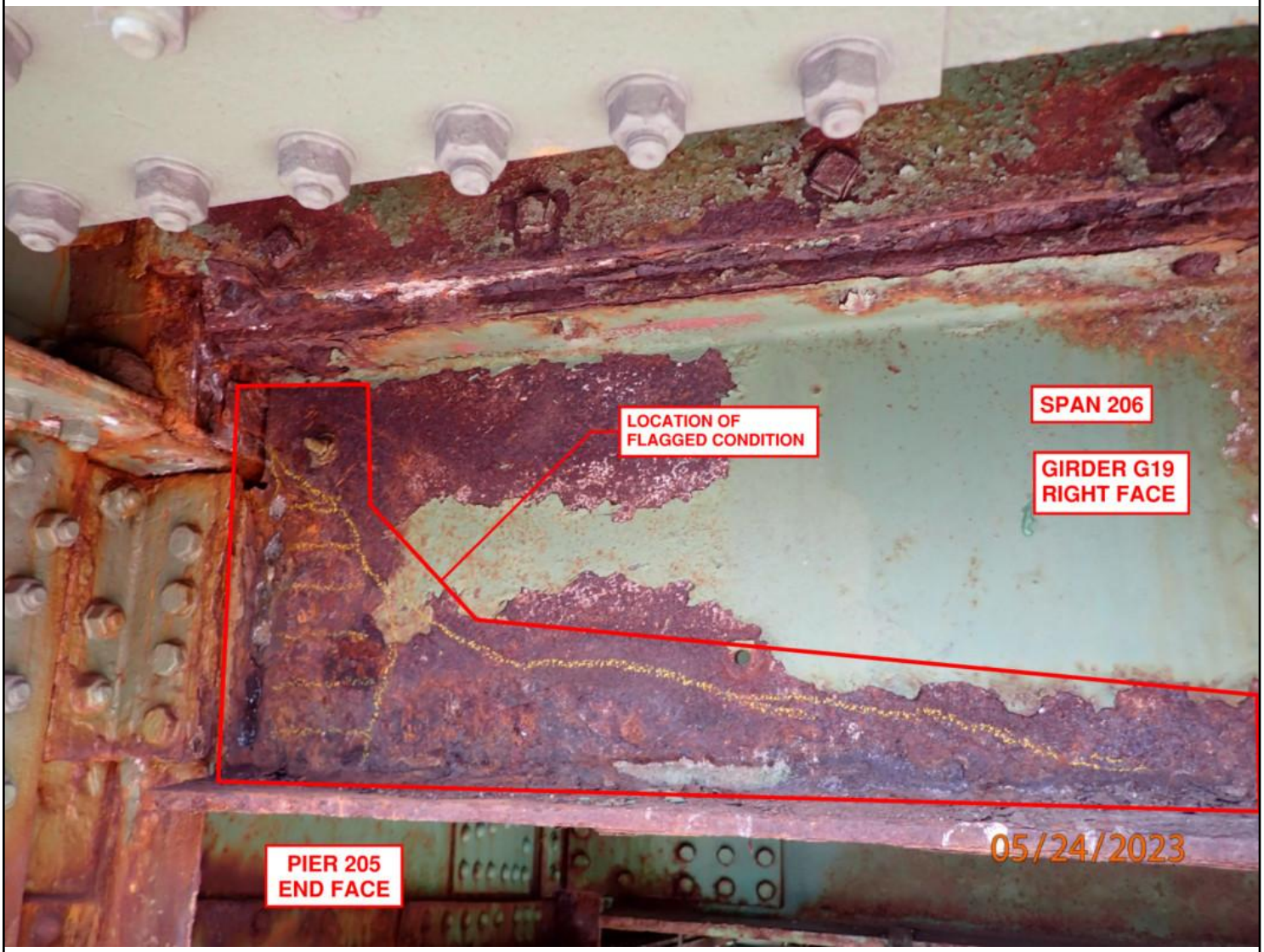
SKETCH FOR YELLOW FLAG # NB23U4W021
SPAN 206, GIRDER G19 AT PIER 205
(LOOKING RIGHT)
N.T.S

Attachment Description: **Flag Condition Sketch 2**

Photo Number: **4** Photo Filename: **P5243286.JPG**

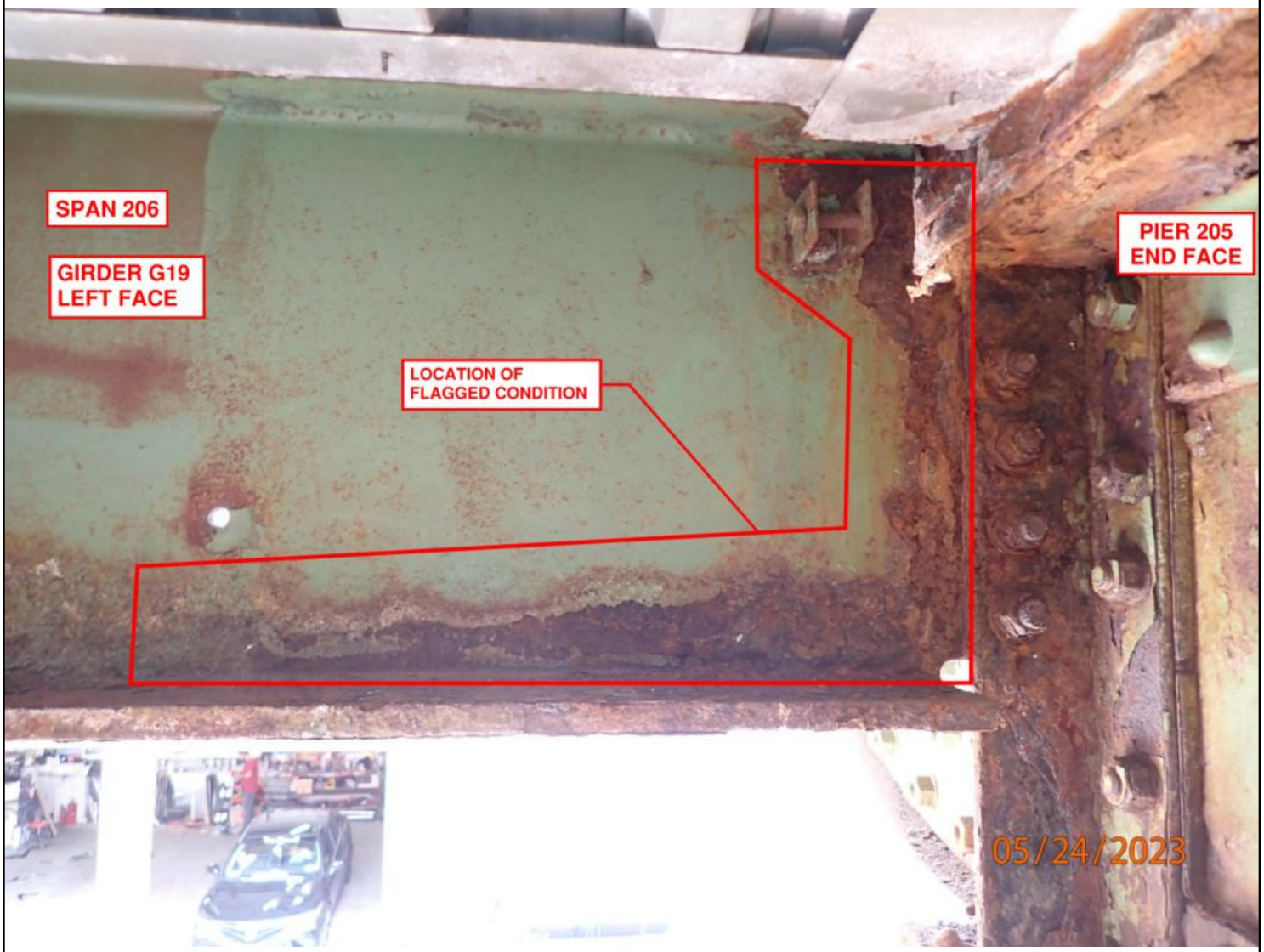
Attachment Description: **General View of Flag Location. Looking Begin - Up**

Photo Number: **5** Photo Filename: **P5243282.JPG**



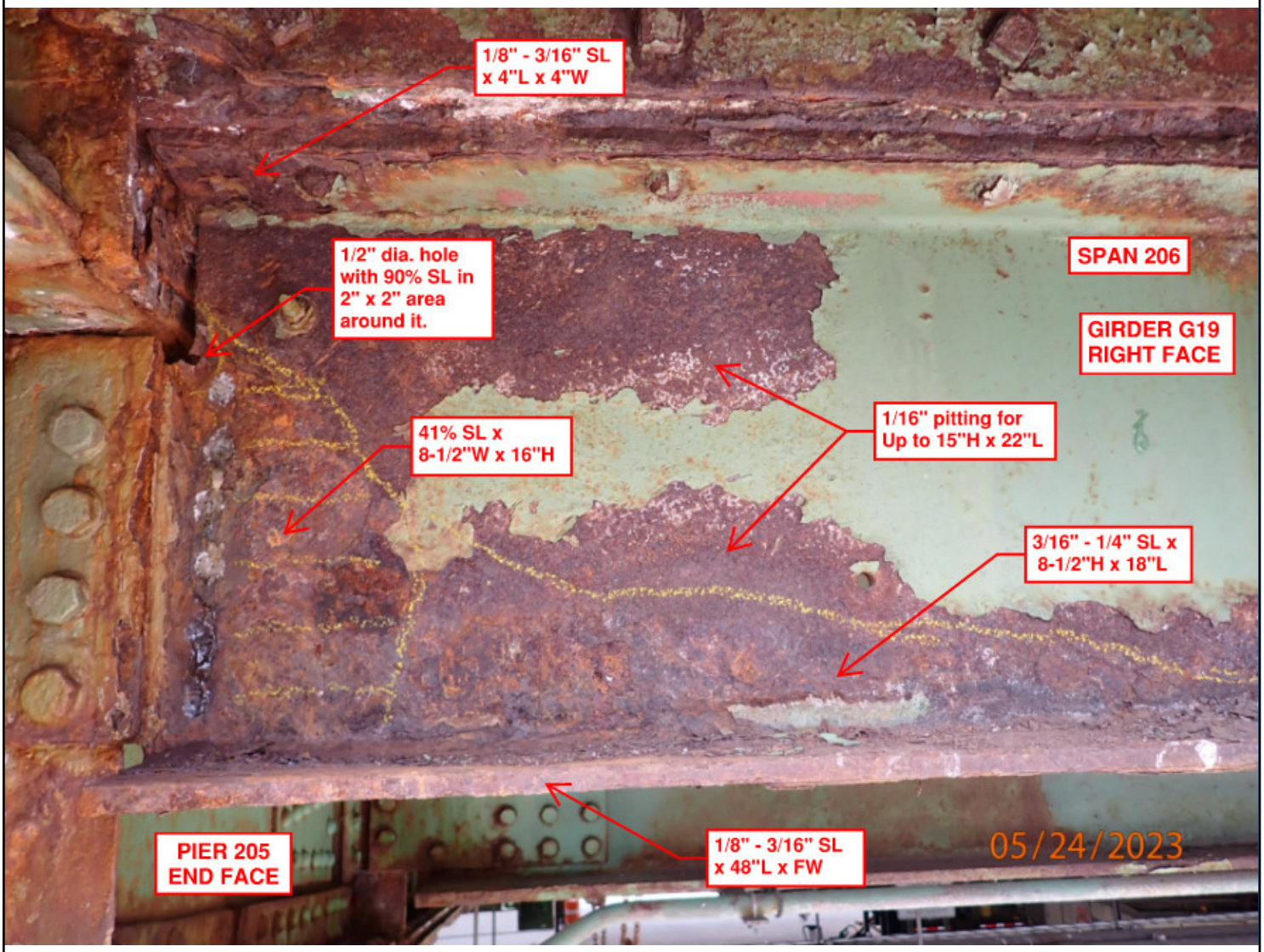
Attachment Description: **General View of Flag Location on Right Face. Looking Begin - Left**

Photo Number: **6** Photo Filename: **P5243277.JPG**



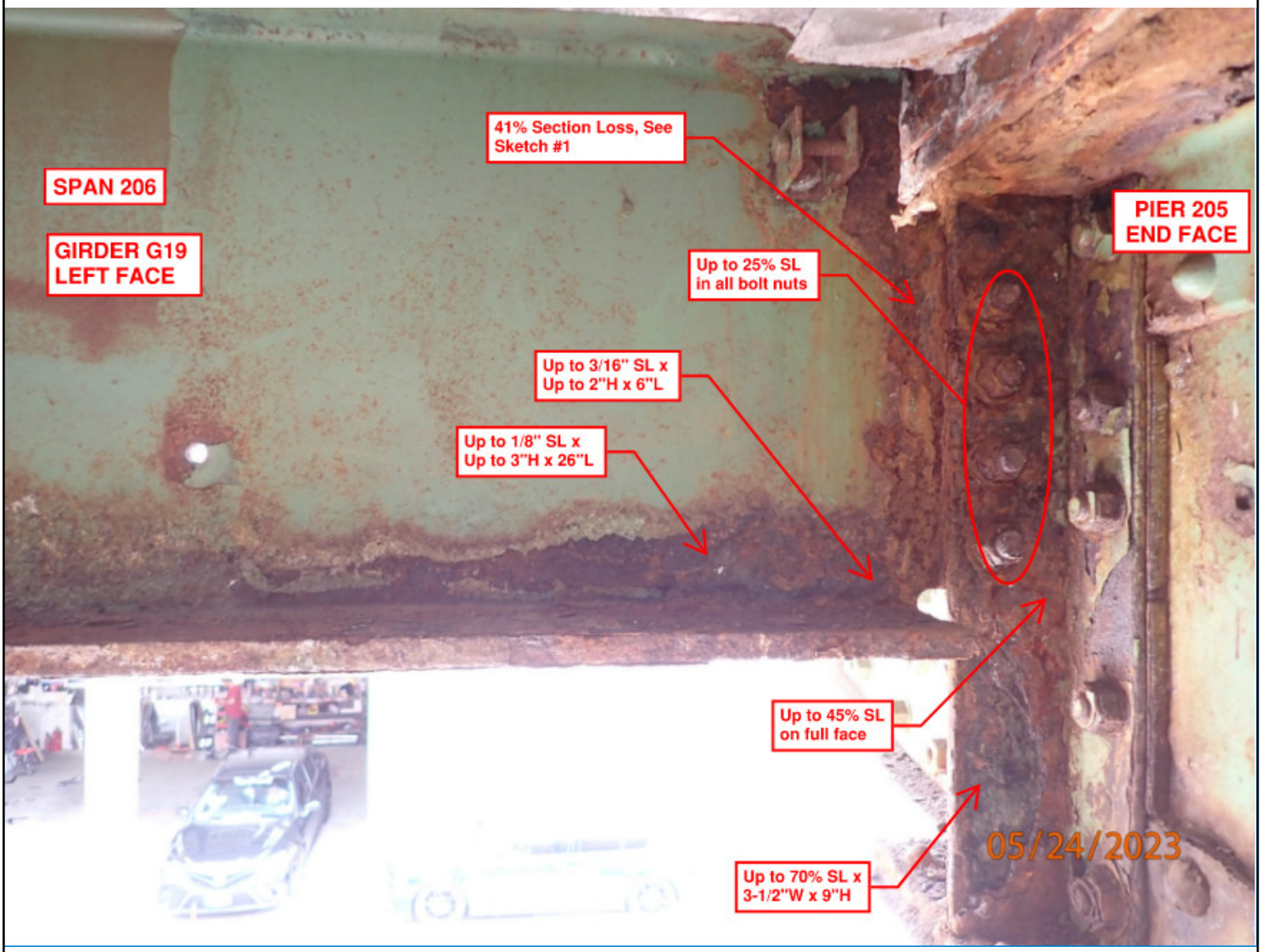
Attachment Description: **General View of Flag Location on Left Face. Looking Begin - Right**

Photo Number: **7** Photo Filename: **P5243284.JPG**



Attachment Description: **Girder G19 web exhibits 41% overall section loss between upper cope and lower cope on the right face, along the connection angle, with a 1/2" diameter hole and 90% section loss in surrounding area of 2" x 2" right below upper cope. Lower web has up to 1/4" section loss in lower web for 8-1/2"H x 18"L and upper web has 1/16" pitting for up to 15"H x 22"L. Looking Left.**

Photo Number: **8** Photo Filename: **P5243278.JPG**



Attachment Description: **Girder G19 lower web on left face has up to 3/16" SL for up to 2"H x 6"L along the bottom flange and up to 1/8" SL in area of Up to 3"H x 26"L. Stiffener angle on left side has an area of 3-1/2"W x 9"H with up to 70% SL in lower portion of connecting leg. Remaining face of the connecting leg exhibits up to 45% SL with up to 25% section loss in all 4 bolt nuts. Looking Right.**